

Remarks

I. Support for Amendments

The foregoing amendments to the claims are believed to place the claims into condition for immediate allowance or into better condition for consideration on appeal. Moreover, the amendments merely clarify Applicants' invention and do not raise new issues for consideration by the Examiner. Support for the foregoing amendments to the claims may be found throughout the specification, (e.g. page 3, lines 9-12; page 4, lines 15-18), and in the original claims (e.g. claims 1 and 5). Entry of the present amendment is respectfully requested.

II. Status of the Claims

By the foregoing amendments claims 64-104 have been cancelled, claim 33 has been amended and claim 105 has been added. Upon entry of these amendments, claims 33-63 and 105 are pending in the application, with claims 33 and 47 being the independent claims.

III. Summary of the Office Action

In the Office Action dated February 23, 2001, the Examiner allowed claims 47-63, but rejected claims 33-46. Applicants respectfully offer the following remarks to overcome each of these rejections.

IV. Election / Restriction

In the Office Action, at page 3, section 4, the Examiner requested that Applicants affirm the election to prosecute the invention of Group I (claims 33-63). Applicants hereby affirm this election, and seek the cancellation of claims 64-104.

V. The Rejection Under 35 U.S.C. § 102(b) Is Traversed

In the Office Action at page 3, section 7, the Examiner has rejected claims 33-39 under 35 U.S.C. § 102(b) as being anticipated by Sloma (U.S. Patent No. 4,748,233). Applicants respectfully traverse this rejection.

The invention as presently claimed is directed to methods for synthesizing one or more cDNA molecules or a population of cDNA molecules under conditions that inhibit, prevent, reduce or substantially reduce internal priming during the annealing phase of the reaction.

Sloma teaches a method for producing cDNA, wherein the "solution is incubated at an elevated temperature, e.g., about 40-50°C., for a time sufficient to allow formation of the cDNA copy" (Column 4, lines 35-37). A person skilled in the art would understand that this passage teaches the use of the elevated temperature during the DNA polymerization reaction, where the cDNA strand is being synthesized by the reverse transcriptase, and not during the annealing phase of the reaction. Indeed, the annealing reaction as taught by Sloma is taking place on ice (Column 12, lines 16-25). As pointed out in the present application (page 5, lines 13-18), cooling the annealing reaction on ice promotes binding of primers to internal sites, thus promoting internal priming.

Sloma does not teach or suggest the use of elevated temperatures to decrease internal priming during the annealing phase of the reaction; rather Sloma teaches the use of elevated

temperatures during the synthesis phase of the reaction. Therefore, Sloma fails to expressly or inherently disclose every element of the claimed invention.

In view of the foregoing amendments and remarks, Applicants respectfully request that the rejection of claims 33-39 under 35 U.S.C. § 102(b) be reconsidered and withdrawn.

VI. The Rejection Under 35 U.S.C. § 103(a) Is Traversed

In the Office Action at page 6, section 9, the Examiner rejected claims 40-42 under 35 U.S.C. § 103(a) as being unpatentable over Sloma in view of Copeland *et al.* (U.S. Pat. No. 6,103,473) ["Copeland"]. Applicants respectfully traverse this rejection.

Claims 40-42 ultimately depend on claim 33, and therefore incorporate by reference all the limitations of claim 33. As discussed above, Sloma fails to disclose a method for synthesizing one or more cDNA molecules or a population of cDNA molecules under conditions that inhibit, prevent, reduce or substantially reduce internal priming during the annealing phase of the reaction. In fact, the method that Sloma teaches leads to the opposite result. Therefore, Sloma fails to disclose a key element of the present invention.

The deficiencies in Sloma are not cured by the disclosure of Copeland, as Copeland, too, does not teach or suggest conditions to reduce internal priming. As the combination of the references cited by the Examiner does not disclose or suggest all the limitations of the claimed invention, Applicants respectfully assert that claims 40-42 are not rendered obvious by the cited art. Reconsideration and withdrawal of the rejection of claims 40-42 under 35 U.S.C. § 103(a) therefore are respectfully requested.

VII. The Second Rejection Under 35 U.S.C. § 103(a) Is Traversed

In the Office Action at page 6, section 10, the Examiner rejected claims 43-46 under 35 U.S.C. § 103(a) as being unpatentable over Sloma in view of Ranu (U.S. Pat. No. 5,824,875) ["Ranu"]. Applicants respectfully traverse this rejection.

Claims 43-46 ultimately depend on claim 33, and therefore incorporate by reference all the limitations of claim 33. As discussed in section VI of this reply, Sloma fails to disclose a method for synthesizing one or more cDNA molecules or a population of cDNA molecules under conditions that inhibit, prevent, reduce or substantially reduce internal priming during the annealing phase of the reaction. Therefore, Sloma fails to disclose a key element of the present invention.

The deficiencies in Sloma are not cured by the disclosure of Ranu, as Ranu also does not teach or suggest conditions to reduce internal priming. As the combination of the references cited by the Examiner does not disclose or suggest all the limitations of the claimed invention, Applicants respectfully assert that claims 43-46 are not rendered obvious by the cited art. Reconsideration and withdrawal of the rejection of claims 43-46 under 35 U.S.C. § 103(a) therefore are respectfully requested.

VIII. Other Matters

On November 1, 2000, Applicants filed a First Supplemental Information Disclosure Statement, Form PTO-1449 (one sheet) and copy of cited reference (one). On January 8, 2001, Applicants filed a Second Supplemental Information Disclosure Statement, Form PTO-1449 (four sheets) and copies of the cited references (eleven). A Third Supplemental Information Disclosure Statement and Form PTO-1449 (2 pages) is being filed concurrently with the present Amendment

and Reply. The Examiner has not made the cited references of record in the prosecution of the present application. Applicants respectfully request that the Examiner return the initialed Form PTO-1449 (seven sheets) together with the next communication from the Office.

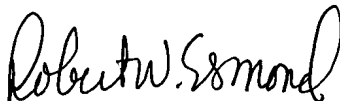
IX. Conclusion

All of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider all presently outstanding rejections and that they be withdrawn.

Applicants believe that a full and complete reply has been made to the outstanding Office Action and, as such, the present application is in condition for allowance. If the Examiner believes, for any reason, that personal communication could expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided.

Respectfully submitted,

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Version with markings to show changes made

Please cancel claims 64-104

Please substitute the following claim 33 for currently pending claim 33:

33. (Once amended) A method for synthesizing one or more cDNA molecules or a population of cDNA molecules, comprising

- (a) mixing at least one mRNA template, poly A RNA template or populations of such templates with at least one primer polynucleotide molecule and at least one polypeptide having reverse transcriptase activity, under conditions that inhibit, prevent, reduce or substantially reduce internal priming; and
- (b) making one or more DNA molecules complementary to all or a part of said template or templates.

Please add the following claim 105:

B2 105. (New) The method of claim 33, wherein said one or more DNA molecules are one or more cDNA molecules.